International Bureau



(43) International Publication Date 8 July 2004 (08.07.2004)

PCT

(10) International Publication Number WO 2004/057092 A1

(51) International Patent Classification7: D06L 1/12, 1/22

(21) International Application Number:

PCT/EP2003/013571

(22) International Filing Date: 1 December 2003 (01.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 02080474.6

19 December 2002 (19.12.2002) EI

- (71) Applicant (for AL, AM, AT, AZ, BA, BG, BR, BY, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GE, HR, HU, ID, IS, JP, KG, KP, KR, KZ, LR, LT, LU, LV, MA, MD, MG, MK, MX, MZ, NI, NO, PH, PL, PT, RO, RU, SE, SK, SY, TJ, TM, TN, TR, UA, UZ, VN, YU, BE, FR, GR, IT, MC, NL, SI, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG only): UNILEVER N.V. [NL/NL]; Unilever N.V., Weena 455, NL-3013 AL Rotterdam (NL).
- (71) Applicant (for AE, AG, AU, BB, BZ, CA, EG, GB, GD, GH, GM, IL, KE, LC, LK, LS, MN, MW, NZ, OM, PG, SC, SD, SG, SL, TT, TZ, UG, VC, ZA, ZM, ZW, SZ, CY, IE only): UNILEVER PLC [GB/GB]; Unilever House, Blackfriars, London, Greater London EC4P 4BQ (GB).
- (71) Applicant (for IN only): HINDUSTAN LEVER LIM-ITED [IN/IN]; Hindustan Lever House, 165/166 Backbay Reclamation, Maharashtra, 400 020 Mumbai (IN).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): EVERS, Johannes, Maria, Wilhelmus [NL/NL]; Unilever R & D Vlaardingen, Olivier van Noortlaan 120, NL-3133 AT Vlaardingen (NL). GOEDHART, Machiel [NL/NL]; Unilever R & D Vlaardingen, Olivier van Noortlaan 120, NL-3133

AT Vlaardingen (NL). KERPELS, Freddie [NL/NL]; Unilever R & D Vlaardingen, Olivier van Noortlaan 120, NL-3133 AT Vlaardingen (NL). VAN KRALINGEN, Cornells, Gerhard [NL/NL]; Unilever R & D Vlaardingen, Olivier van Noortlaan 120, NL-3133 AT Vlaardingen (NL). OVERDEVEST, Pieter, Everhardus, Maria [NL/NL]; Unilever R & D Vlaardingen, Olivier van Noortlaan 120, NL-3133 AT Vlaardingen (NL). REINHOUDT, Hank, Robert [NL/NL]; Unilever R & D Vlaardingen, Olivier van Noortlaan 120, NL-3133 AT Vlaardingen (NL). VRIESWIJK, Karin [NL/NL]; Unilever R & D Vlaardingen, Olivier van Noortlaan 120, NL-3133 AT Vlaardingen (NL). VRIESWIJK, Karin [NL/NL]; Unilever R & D Vlaardingen, Olivier van Noortlaan 120, NL-3133 AT Vlaardingen (NL).

- (74) Agent: ROSEN JACOBSON, Frans, L., M.; Unilever NV, Patent Department, Olivier van Noortlaan 120, NL-3133 AT Vlaardingen (NL).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DRY CLEANING PROCESS

(57) Abstract: A dry cleaning process for in-home dry cleaning comprising a low aqueous dry cleaning step of contacting a laundry article with a low aqueous dry cleaning composition wherein the liquor to cloth ratio (w/w) (LCR) is at most 20, and wherein said low aqueous composition comprises: a) at least one non-flammable, non-chlorine containing organic dry cleaning solvent; b) 0.01 to 0.9 wt.% water and c) a cleaning effective amount of a surfactant wherein said surfactant comprises at least one anionic headgroup.

2004/057092 A1

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 D06L1/12 D06L1/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) $IPC \ 7 \quad D06L$

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

| | ENTS CONSIDERED TO BE RELEVANT | | | |
|--|--|--|---|--|
| Category ° | Citation of document, with indication, where appropriate, of | Relevant to claim No. | | |
| X . | WO 02/46517 A (GEN ELECTRIC) 13 June 2002 (2002-06-13) cited in the application page 2, line 11 - line 24 page 6, line 3 - line 10 page 10, line 9 - line 26 example 2 | | 1-3,6-10 | |
| Υ | US 3 689 211 A (GIAMPALMI JOHN 5 September 1972 (1972-09-05) column 2, line 32 - line 64 | 4,5 | | |
| Y | WO 00/36206 A (3M INNOVATIVE ICO) 22 June 2000 (2000-06-22) cited in the application page 1, line 26 - page 3, line | | 4,5 | |
| χ Furti | ner documents are listed in the continuation of box C. | -/ χ Patent family members are listed i | in annex. | |
| <u> </u> | tegories of cited documents : | <u> </u> | | |
| "A" docume consid "E" earlier of filing d "L" docume which i citation "O" docume other in "P" docume | ont defining the general state of the art which is not ered to be of particular relevance tocument but published on or after the international ate nt which may throw doubts on priority claim(s) or is cited to establish the publication date of another or or other special reason (as specified) and referring to an oral disclosure, use, exhibition or | "T" later document published after the inte or priority date and not in conflict with cited to understand the principle or the invention "X" document of particular relevance; the cannot be considered novel or cannot involve an inventive step when the do "Y" document of particular relevance; the cannot be considered to involve an involve and the combined with one or moments, such combination being obvious in the art. "&" document member of the same patent | the application but every underlying the elaimed invention be considered to cument is taken alone elaimed invention eventive step when the one other such docu- | |
| | actual completion of the international search | Date of mailing of the international sea | | |
| Date of the a | | 06/04/2004 | | |
| | 5 March 2004 | 06/04/2004 | | |

INTERNATION SEARCH REPORT

PC 03/13571

| Relevant to claim No. |
|-----------------------|
| Relevant to claim No. |
| |
| 1-3,6-10 |
| 1,6,7,9, 10 |
| 1,3,6, 8-10 |
| 1-10 |
| 1-10 |
| |

INTERNATIONAL SEARCH REPORT

n on patent family members

PC 03/13571

| | | | _ | | { † | | 03/13571 |
|----|--------------------------------------|-------|---------------------|----------------|----------------------------------|------------|--|
| | atent document d in search report | | Publication date | | Patent family member(s) | | Publication date |
| WO | 0246517 | Α | 13-06-2002 | US AU Ep | 2002115582 8689401 1341956 | Α | 22-08-2002 18-06-2002 10-09-2003 |
| | | | | WO | 0246517 | | 13-06-2002 |
| US | 3689211 | Α | 05-09-1972 | BE | 749533 | | 26-10-1970 |
| | | | | DE FR | 2019418 2039440 | | 12-11-1970 15-01-1971 |
| Ī | | | | GB | 1307318 | Α | 21-02-1973 |
| | | | | NL | 7005922 | A ————— | 27-10-1970 |
| WO | 0036206 | Α | 22-06-2000 | US | 6159917 | | 12-12-2000 |
| | | | | AU EP | 3569799 1141468 | | 03-07-2000 10-10-2001 |
| | | | | JΡ | | T | 02-10-2002 |
| | | | | WO | 0036206 | A1 | 22-06-2000 |
| WO | 0250366 | Α | 27-06-2002 | US | 2002004953 | | 17-01-2002 |
| | | | | AU Ep | 8529901 1346100 | | 01-07-2002 24-09-2003 |
| | | | | MO | 0250366 | | 27-06-2002 |
| | | | | US | 2003074742 | A1 | 24-04-2003 |
| WO | 02053824 | Α | 11-07-2002 | WO | 02053824 | | 11-07-2002 |
| | | | | US | 2002142932 | A1 | 03-10-2002 |
| DE | 3739711 | A | 08-06-1989 | DE | 3739711 | A1 | 08-06-1989 |
| MO | 0194684 | Α | 13-12-2001 | US US | 2002133886 | | 26-09-2002 |
| İ | | | | US | 2002133885 2002007519 | | 26-09-2002 24-01-2002 |
| | | | | US | 2001054202 | A1 | 27-12-2001 |
| | | | | US Au | 2002029427 6671901 | | 14-03-2002 |
| | | | | AU | 6818801 | | 17-12-2001 17-12-2001 |
| | | | | ΑU | 6818901 | Α | 17-12-2001 |
| | | | | AU | 6820001 | | 17-12-2001 |
| | | | | AU AU | 6820101 6821401 | | 17-12-2001 17-12-2001 |
| İ | | | | AU | 7525901 | | 17-12-2001 |
| | | | | ΑU | 7529101 | | 17-12-2001 |
| | | | | AU BR | 7529201 0111401 | | 17-12-2001 03-06-2003 |
| | | | | BR | 0111406 | | 03-06-2003 |
| | | | | BR | 0111426 | | 23-12-2003 |
| | | | | CA CA | 2407180 2407752 | | 13-12-2001 13-12-2001 |
| | | | | CA | 2408659 | A1 | 13-12-2001 |
| | | | | CA | 2408936 | | 13-12-2001 |
| | | | | CA CA | 2409127 2410192 | | 13-12-2001 13-12-2001 |
| | | | | CA | 2410195 | A1 | 13-12-2001 |
| | | | | CA | 2410199 | | 13-12-2001 |
| | | | | CN CN | 1430689 1433335 | | 16-07-2003 30-07-2003 |
| | | | | CN | 1433461 | T | 30-07-2003 |
| | | | | CZ | 20023927 | | 16-04-2003 |
| | | | | CZ | 20023983 | AS | 16-04-2003 |

INTERNATIONAL SEARCH REPORT

or patent family members

PCQ P 03/13571

| | | | 1 0(1 | |
|--|---------------------|--|---|--|
| Patent document cited in search report | Publication date | | Patent family member(s) | Publication date |
| WO 0194684 A | | CZ EP EP EP EP EP JP JP WO WO WO | 20023984 A3 1292375 A2 1290259 A2 1290267 A1 1292374 A2 1290268 A1 1290265 A1 1292731 A2 1290263 A2 1290132 A1 2003535987 T 2003535991 T 2003535993 T 2003535995 T 2003535628 T 0193977 A2 0194684 A1 0194501 A2 0194682 A1 | 16-04-2003 19-03-2003 12-03-2003 12-03-2003 19-03-2003 12-03-2003 12-03-2003 12-03-2003 12-03-2003 12-03-2003 02-12-2003 02-12-2003 02-12-2003 02-12-2003 13-12-2001 13-12-2001 13-12-2001 |
| WO 0035571 A | 22-06-2000 | US AU BR CA CN DE EP JP WO | 6127430 A 3747299 A 9916225 A 2352056 A1 1330567 T 69914805 D1 1146956 A1 2002532222 T 0035571 A1 | 03-10-2000 03-07-2000 04-09-2001 22-06-2000 09-01-2002 18-03-2004 24-10-2001 02-10-2002 22-06-2000 |